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VII. An Account of a Book.

Myotomia Reformatata :

O R,

A New Administration of all the Muscles of Humane Bodies; wherein the true Uses of the Muscles are explained, the Errors of former Anatomists concerning them confuted, and several Muscles not hitherto taken notice of described: To which are subjoyned, A Geographical Description of the Bones, and other Anatomical Observations. Illustrated with Figures after the Life. By William Cowper, Surgeon. London: Printed for Sam. Smith and Benj. Walford, at the Prince's Arms in St. Paul's Church-Yard. 1694. In Octavo.

TH E Author in his Preface, after premising something in Vindication of Anatomical Enquiries, proceeds to a short History of the Advancements of Muscular Anatomy in several Ages; in which he takes notice little or no Improvement has been made therein since *Vesalius* and *Falloppius's* time, and that the greatest part of latter Writers of Myology have rather increased than diminished the Errors, especially those who have written in *English*. This considered, and he having discovered divers Muscles which hitherto had escaped the Observations of others, induced him to think a Reformation

mation of so considerable as well as useful a part of Anatomy, might be acceptable to the Publick at this time. And to render his particular Enquiries more intelligible; those Muscles which have not been taken notice of by others, are not only delineated, but those also, which are not well express'd in the Figures of *Vesalius*, *Casseri*, and those of *Bidloo*, and others. And to the end the Description of each Muscle should be the better understood, by so small a Volume, he has added two Figures of the *Skeleton*; to which references are made in describing the Origine, Progress, and Insertion of each Muscle.

In the Introduction, an Account is given of the intimate Structure of a Muscle; where, he observes (by the assistance of a Microscope) that each single Fleshy Fibre is much smaller than the finest Hair; that it's of a Cylindrical Figure, and that it's substance is composed of divers Cells: He supposes each Cell to be distinct, and that it has one Apperture only into the Extremity of the Blood-Vessel; from which Structure, divers *Phænomena* may be explained, as by often injecting of fair Water into the Arteries of a dead Animal, why the Muscles are sooner tumified than other Parts, and why they are excited to act when such Injections are made soon after Death; as also, why the Muscles entertain more Blood in them. (as appears by their colour) than divers other Parts; as the *Brain*, *Pancreas*, &c. whose Number and Magnitude of Blood-Vessels exceed those of the Muscles: Hence, he supposes the Blood, barely as a Fluid; to be an assistant in the Contraction of a Muscle, and that it is the *weight* by which its Action is performed; which, he imagines, may happen two manner of ways; either by a Turgescence began in the *Parietes* of the Cells in the Fleshy Fibres, caused by the Contents of the Nerves when agitated *ad Imperium Animæ*; or by a Coarctation of the Veins, whereby the
 refluent

refluent Blood is hindered : By either of these means the Cells of the Fleſhy Fibres may be diſtended by the Inſluent Blood ; whereby the length of each Fleſhy Fibre will be leſſened, and the whole Muſcle contracted.

Chap. I. In the Hiſtory of the Muſcles of each Part, he gives an Account of the manner of the Adminiſtration of Diſſection ; here he follows the Order that is commonly praſtiſed by Anatomists, beginning with thoſe of the *Abdomen* : The Erroneous Deſcriptions of thoſe Parts of the *Oblique Deſcending* and *Ascending Muſcles* lying in the *Ilia* are rectified, and the true Uſe of thoſe parts of *Them* inſerted : In this firſt Chapter he takes notice of an excellent Artifice in Nature in tranſmitting the Spermatick Veſſels through the Inferiour Parts of the laſt named Tranſverſe Muſcles, whereby a *Prolapſus* of the Inteſtines is prevented.

Chap. III. Beſides rectifying the Erroneous Deſcriptions and aſſigned Uſes of the two Pair of Muſcles that are commonly treated of belonging to the *Penis*, he adds the Deſcription and Figure of a third Pair, mentioned by *Aquapendens* ; the like is done in Treating of the Muſcles of the *Anus*.

Chap. V. The Opinion of *Falloppius* in dividing the *Sphincter Ani* into three Muſcles is rejected, and that of *Riolan*, in multiplying its two *Levatores* to the number of ſix : Beſides the Uſe commonly aſcribed to the *Levatores Ani*, he takes notice of another notable one.

Chap. VII. In treating of the Muſcles of the Eye-lids he rejects the Notion of former and ſome laſter Anatomists, and retains that of *Falloppius*.

Chap. VIII. He conceives the Vulgar Notion concerning the Office of the two Oblique Muſcles of the Eye to be erroneous, and inſerts their true Uſes ; and takes notice of an admirable Mechanism in Nature in the diſpoſition of thoſe Muſcles.

Chap.

Chap. IX & X. In describing the Muscles of the *Alæ Nasi* and Lips, he takes notice of two pair, which have escaped the Observations of Anatomists: The first of which he calls *Constructores Alarum Nasi & Depressores Labii superioris*, from their Use; the other Pair also receive their Names from their Office, and are called *Elevatores Labii inferioris proprii*.

Chap. XI & XII. *M. Du Verney's* Account of the Muscles of the External Ear, or *Auricula*, is imitated. He reckons four Muscles belonging to the Internal Ear, of which three are employ'd in the Motion of the *Malleus*; of these the first is the External Muscle of *Aquapendens* and *Placentinus*; the second is the External one of *Du Verney*, which from its Position our Author calls *Obliquus Auris*; the third is the *Internus Auris*, described by *Enstachius*; and the fourth is the *Musculus Stapedis*.

Chap. XIII. Besides the Uses commonly ascribed to the *Musculus Mylohyoideus*, he assigns another notable one, in Compressing its subjacent sublingual Glands, and Salival Ductuses.

Chap. XIV. He reckons but three Pair of Muscles belonging to the Tongue, (*viz.*) *Genioglossum*, *Ceratoglossum*, and *Styloglossum*.

Chap. XVI & XVII. In describing the Muscles of the *Fauces* and *Gargareon*, he reprehends *Riolan* for pretending to their Invention, since they were accurately described before him by *Falloppius*. Instead of those two pair of Muscles called *Sphænopharyngæum* and *Cephalopharyngæum*, he describes one Muscle only, and calls it *Pterygopharyngæus*; of which he gives a Figure, together with the rest of the Muscles of the *Fauces*.

Chap. XVIII. In demonstrating the Office of the *Musculus Digastricus* of the Lower-Jaw, he takes notice of an Admirable Artifice in Nature, which renders that Muscle and its Partner capable of drawing the Lower

Mandible downwards ; whereby divers *Phænomena* relating to the motions of the *Os Hyoides* and *Larynx* (particularly in the Action of Deglutition) are explained, and a Cause assigned, why the Actions of the last named Parts are not dependent in some Animals.

Chap. XIX. Among the Muscles of the *Thorax* which appear in the fore-part, he reckons the *Musculus Scalenus*, which according to the Accurate *Falloppius*, he divides in three Muscles.

Chap. XXII. Besides seven pair of Muscles described by Vulgar Anatomists employed in the motions of the Head, and two pair more mentioned by *Galen*, *Oribasius*, and *Falloppius*, he adds another pair, which he calls *Recti interni minores*.

Chap. XXIII. He has discovered divers small Muscles lying between the double Spines of the *Vertebræ* of the Neck, which he calls *Interspinales Colli*.

Chap. XXIV. After the Descriptions of the Muscles inservient to the motions of the Head, Neck, Back, and Loyns, he observes that the extending Muscles of those Parts are more numerous and stronger, which he thinks for several ends to be a Provident Contrivance in Nature.

Chap. XXVI. He describes the Bicipital Muscle of the *Cubit* to have a double tendinous Termination, the external of which, he calls *Fascia Tendinosa*, it including all the external Muscles of the *Carpus* and Fingers ; to which Tendinous Expansion he assigns some Remarkable Uses : Here he gives an Account of an Extraordinary Case in Practice relating to this Bicipital Muscle.

Chap. XXVIII. He assigns a notable Use to that stupendous Contrivance in Nature, in conveying the Tendons of the Inferiour Muscle bending the Fingers, called *Profundus*, through those of the Superiour or *Sublimis*. He conceives the Lumbrical Muscles (which lye in the Palm

Palm of the Hand) perform those minute motions of the Fingers in playing on Musical Instruments, when their second and third Bones are bended.

Chap. XXXII. He Observes that no Muscle is properly employed in Rotating the Thigh-Bones inwardly; but that the fore-parts of the *Glutæi medii* and *minimi* Officiate in that Action.

As to divers other Particulars relating either to the Descriptions, Uses, and Reason of the differing Constitutions of divers Muscles, with their manifold Structures, we must refer to the Book it self, lest we exceed the limits of this Account.

At the end of the Descriptions of the Muscles, he adds an Appendix, containing an Account of the intimate Structure of the *Penis*, and the manner of its Erection: After taking notice of divers things Remarkable in its Common Integuments, he describes the Lympheducts of the *Penis*; which he had first an Opportunity of Observing by injecting *Mercury* into the Blood-Vessels of that Part. These Lympheducts (like those of the Inferiour Parts) he supposes do discharge their Contents into the Ingrinal Glands; whence an Account may be given, how those Glands become diseased and tumified in Venereal Cases.

In the next place he gives an Account of certain Glandules not long since taken notice of by that Accurate Anatomist, Dr. *Tyson*; by him called *Glandulæ Odoriferæ*. After some intimations in relation to this Part's being destitute of fat, he takes notice of a Ligament, which from its Office he calls *Suspensorium Penis*; the use of which he afterwards mentions in speaking of the Erection of that Part. He describes two sorts of Veins belonging to the *Penis*; the External of which, he calls *Venæ Præputii*, they arising chiefly from the Arteries in the Præpuce: The Internal (which take their rise
from

from the Arteries of the *Penis* it self) he calls *Venæ ipsius Penis*. From the Structure of the *Penis* it self, and Conformation of its adjacent Parts, and Disposition of its Blood-Vessels, he gives a Mechanical Account of its Erection.

L O N D O N :

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